Special Communications

National Health Service Corps and Primary Care Training

A Mutually Beneficial Plan Affecting Physician Maldistribution

Philip Pollner, MD, Jerrold J. Parrish, MD

• The National Health Service Corps (NHSC), established by passage of the Emergency Health Personnel Act of 1970, was set up to provide for the redistribution of medical personnel to communities with critical health manpower shortages. Three years later, only 4% of the 5,000 "underserved" areas have received physicians; dentists and allied personnel are still missing. Further inadequacies of the Corps are demonstrated by the substantial decline in physical applicants paralleling the end of the doctor draft and Vietnam War.

To reawaken physician interest, the NHSC seeks new financial benefits to replace the defunct military fulfillment incentive. Such artificial benefits have previously proven inadequate as incentives for effecting enlistment in underserved areas. Furthermore, most physicians will no longer be available for service commitments during training because of the continuity established by the combined internship-residency.

Instead we propose that establishment of a working relationship between primary care training programs and NHSC has substantive value in solving problems plaguing both groups, as well as helping to improve physician distribution nationally.

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UNTIL recently, the National Health Service Corps (NHSC) has been effective in recruiting physicians and other health specialists as regular and reserve duty officers for the Public Health Service to "improve the delivery of health care and services to persons residing in areas with critical health manpower shortage."[1]

Most physicians enlisted to fulfill their military obligation during the Vietnam War, when physicians were being drafted in large numbers. With the termination of the doctor draft, physician interest in the corps has diminished, and the result has been a serious decline in applicants. Of the estimated 5,000 underserved communities, a mere 177 have an NHSC team, and most teams consist of only two physicians. Dentists, nurse practitioners, and other health personnel are even more difficult to recruit.

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Unable to achieve the broad national impact intended by the Emergency Health Act, the corps is further troubled by a low retention rate. It was previously hoped that if health professionals could be lured into underserved communities for a couple of years, they might sink roots. However, physicians have quickly abandoned their assignments after the specified two years to return to specialty training. As a result, the number of enlisting physicians has been insufficient to staff the sites that are presently functioning, much less to meet the requirements of the great number of communities that are still underserved.

The Milton Olive Clinic— A Case in Point

Our own experience at the Milton Olive III Health Service Clinic in a poor, rural Mississippi area exemplifies these deficiencies. For two of the three years of the corps' existence, attempts have been made to enlist physicians to augment the emergency services being rendered by one part-time physician. Even though the enlistment of more physicians was approved by the corps, we have so far received only one nurse. When and if physicians will be placed still cannot even be predicted! If the NHSC cannot even assist communities that are struggling on their own to deliver some services, what hope can be given to the vast majority of underserved communities that lack sufficient resources to even begin?

Previous supporters among politi-

From the Milton Olive III Health Services Clinic of Holmes County, Lexington, Miss, and Meharry Medical College, Nashville, Tenn. Dr. Parrish is now with the Department of Family Medicine, University of Miami School of Medicine, Miami, Fla.

Reprint requests to 1631 Peach Tree St, Jackson, MS 39202 (Dr. Pollner).

cians, as well as others genuinely concerned with physician maldistribution, have expressed serious concern about the NHSC program. Given the President's reluctance to support the corps and the hesitant approval of Congress,[2] it is unrealistic to assume that such a vital program can justify future funding unless a more substantial measure of success can be demonstrated.

Artificial Incentives Are Inadequate

In an effort to reverse these deficiencies and elicit physician interest, new financial incentives have been passed into law and more are being proposed. Increases in salaries to nearly $20,000 a year, loan forgiveness, and other financial benefits are soon to be offered. Despite these efforts, in only 1 of 11 programs studied by Mason[3] have such innovations been effective in persuading physicians to take up permanent residence in rural communities. Experiences in surrounding Mississippi communities, as well as in other areas, substantiate these findings even when lavish and often unrealistic benefits were offered.

Furthermore, new postdoctoral training curricula that stipulate a combined internship and residency have already been initiated at many medical centers, and these programs obligate physicians to continuity during training. Since more than 90% of graduating physicians still seek internship and residency training,[4(p922)] this major pool of young physicians would not even be available to the NHSC until final completion of training. At such a time, it is probable that few would be likely to forego the inducement of private practice and be attracted to a two-year NHSC commitment.

This factor, plus the fact that roots and family ties are established during the last years of training, form powerful deterrents to opting for duty in underserved areas. But even if these physicians could be recruited, it would be unwise to recruit men trained as specialists for areas that desperately require the services of generalists.

Primary Care Training—An Urgent Priority

The lack of interest in family medicine training among physicians graduating over the past two decades needs to be reviewed and altered to help correct the specialty maldistribution that afflicts the nation. In 1973, only 7% of graduating physicians entered family medicine training, and of the 164 approved programs in family medicine, 16 had no residents at all.[5] Furthermore, only 413 physicians have completed family practice residencies since January 1970.

At the 1973 American Academy of Family Physicians Convention, a motion was passed to create enough openings for residents in family medicine to accommodate 25% of each year's class of medical graduates, or about 2,500 first-year residents. Today, there are 756 first-year residents for the 874 first-year positions available nationwide. Indeed, both the American Medical Association and the American Academy of Family Physicians have expressed the urgent need to enlist 50% of all medical school graduates into primary care training in an effort to reverse the current maldistribution of specialities. This difficult task has been made more difficult by federal cutbacks in medical education and training, especially the controversial presidential pocket veto of legislation that would have provided funding for residency programs in family medicine; Senator Edward M. Kennedy has attempted to reverse the veto of this legislation in federal court.[6]

NHSC and Primary Care Training Programs

A working agreement between NHSC and primary care training programs could serve as a first step toward achievement of mutual goals. Such a relationship would aid the corps by providing manpower; it would enhance recruitment of medical school graduates for primary care training; it would provide a secure financial basis for funding those training programs willing to participate; and it would create a mechanism for distribution of primary care physicians to areas where they are needed.

At present, the corps provides approved communities with technical assistants, supplies and equipment, and other necessary items (which would constitute a rural center). These rural centers could be located within reasonable proximity of the participating family practice training program. Residents in primary care (ie, family medicine, pediatrics, and internal medicine) could rotate through the center while under supervision of both experienced, practicing full-time staff members and local physicians. Each rural training center would be set up like a doctor's office, and encounters with patients would be structured to provide quality training experiences.

Patients elect to go to an NHSC center as they would to any physician, and fees derived from these patients would help support the unit and pay additional salaries. Such rural training centers with well-planned activities could offer quality education to residents in a realistic setting while providing services to the patients in underserved communities.

Experience in area health educational centers has proved that effective training and education can be found outside the traditional primary teaching hospital.[7] Eventually, interdisciplinary training of medical, dental, and nursing students, as well as nurse practitioners and physician assistants, can be introduced.

New legislation could be enacted so as to enable the NHSC to imburse the training program with the funds necessary for all participating residents, rather than pay individual physicians. For a program involving 30 residents, at the proposed rate of $20,000 per resident, an income of $600,000 a year could be generated for the training program. Such financial benefits could be a boon to hard-hit programs such as family practice training and other primary care programs.

Tuition payments and loan forgiveness, presently offered to physicians enlisting in the corps, could be extended to medical students choosing service corps-linked primary care training residencies. These benefits, plus the higher salaries paid to such residents (out of revenues generated from patient fees and third-party payments) will further stimulate the interest of medical students in primary care residencies. In addition, it is known that residents tend to remain in the area where they spend their last years of training. Therefore, it would be a further inducement to such individuals to offer them the use of the training center for their private-practice office when their period of training has been completed. In this way, primary care physicians would be distributed to underserved communities with back-up support from an affiliated institution. Such physicians, in turn, could provide supervision for new residents training at the unit, and in this way a continuous cycle could be generated.

An additional consequence of such a program can be envisioned whereby residents training at a unit that already has a full complement of practicing physicians might assist in setting up satellite clinics in adjacent areas where they may later settle. Thus, new units, with full-time practicing physicians might be established in other areas where they are needed.

The most opportune time for introducing a physician to an underserved community is during the years when he is training. The extraordinary advantages offered by this program to a physician who is still in residency training—especially if he looks on the training as a chance to develop his own practice—could be expected to impress students with the benefits of the program and the desirability of remaining in the area, or one nearby.

Comment

If the NHSC can work directly with primary care training programs, a mutually beneficial arrangement might result. Representative Paul G. Rogers, Chairman of the House Subcommittee on Health, has viewed this plan with great interest as a means of increasing the effectiveness of the NHSC and simultaneously making available initial funding for primary care training programs.

Educating primary care physicians in small yet well-equipped and well-staffed units dealing with clinical problems could be an essential asset in the educational experience not available in the university health center.

Physicians are more likely to remain in practice in an area where they receive training. If they become familiar with a smaller city or rural area, they may find it an attractive place for a career.

Such a plan would offer quality training through provision of a realistic opportunity to treat patients under qualified supervision in areas that are underserved. The potential benefits offered could be of sufficient magnitude to encourage students to enter primary care training; also, the plan would provide a stronger financial base for primary care training programs. It could have a profound national impact on the quality of care and the distribution of physicians to underserved areas.

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Toxins of the Body

[Walter F. McCabe, MD, Beloit, Wis]

The human body, in its normal or its pathologic state is the theater of the toxic elaborations carried on either by the organism itself, or by the microbes which are normal inhabitants, or by those which are guests of the alimentary canal.

In the first rank come the mineral substances taken with our food, even the most inoffensive, particularly on account of the mineral matters; then the products of physiologic secretion, the products of digestion, and toxic substances resulting from intestinal putrefactions. The poisons which exist in the tissue and in the intestinal canal are likewise found in the urine, either natural or modified by oxidation. In every disease of the intestinal canal there is an increase of urinary (indican) poison. . . .

In the alimentary canal we can not make the distinction between the toxins brought there by the secretions and those which are manufactured there. The difficulty of collecting the secretions of the skin, and the small amount taken make research in this line very unsatisfactory. We are, therefore, compelled to look to the urinary apparatus for the demonstration of the toxic products of emunction; by it are eliminated the toxic substances which are not volatile, allowing for those which are destroyed by the liver and the organism as a whole. . . . We know urine taken as a whole is toxic. The degree of concentration causes its toxicity to vary, toxicity depending on the substances held in solution. On an average of fifty-two ounces, man makes a sufficient amount of urinary poison to kill himself. The toxicity of urines varies according to circumstances, cerebral activity, muscular activity, sleep, dieting, etc. The urines of sleep, although more dense, more rich in solids, are almost always less toxic than the urines of the day. During sleep man elaborates from two to four times less poison than during an equal time of cerebral activity. The urines of sleep are always convulsive, while those of the day are slightly so, if at all, but are markedly narcotic. Years ago it was the popular belief that during the day the body forms a substance which when accumulated induces sleep, and that during sleep it elaborates a substance which when accumulated would induce waking.

The poisons of the day and those of the sleeping period are not only different in intensity and quality, but they are antagonistic, the one being an antidote to the other.

Blood is toxic, and normal urine is constantly removing toxic substances from it. . . .

Man forms in eight hours, simply by his hepatic secretions, enough poison to kill himself. In twenty-four hours the urine does not eliminate one-half the quantity necessary to poison a man. The volume being equal, bile is nine times as poisonous as urine. . . .

In classing the toxic products the mineral substances come first, chiefly potassium; products of disassimilation, products of intestinal putrefaction, chiefly ammonia; next, the organic products of disassimilation, including a small quantity of bile. . . .

To avoid absorbing these toxins the emunctory organs must be in a state of anatomic and functional integrity. The alimentary canal should be made as nearly antiseptic as possible. . . .